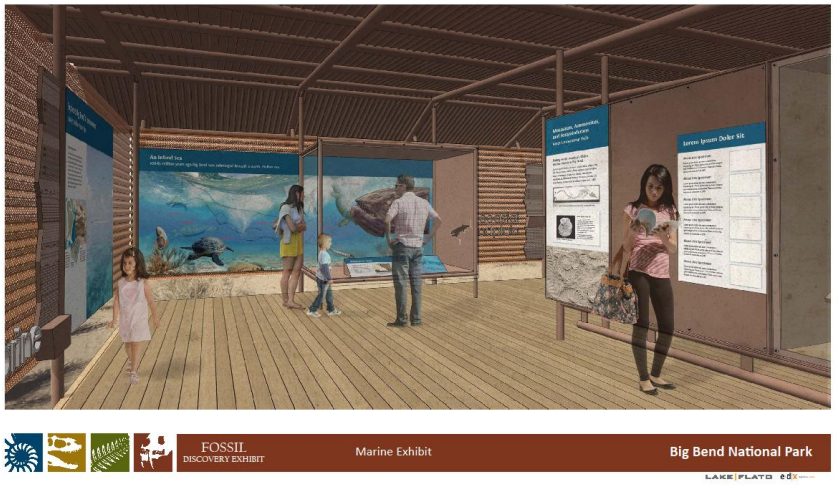
National Park Service
U.S. Department of the Interior
Big Bend National Park

# Project to Replace Obsolete Fossil Exhibit, Big Bend National Park

Big Bend has some of the most interesting and scientifically-important fossils in the National Park System, but the park's fossil exhibits are outdated and inadequate. This presentation provides an overview of an upcoming project that will show visitors some of the park's most impressive fossils and tell the story of Big Bend's changing environments over the past 130 million years.

**Obsolete Exhibit (25 years old)**

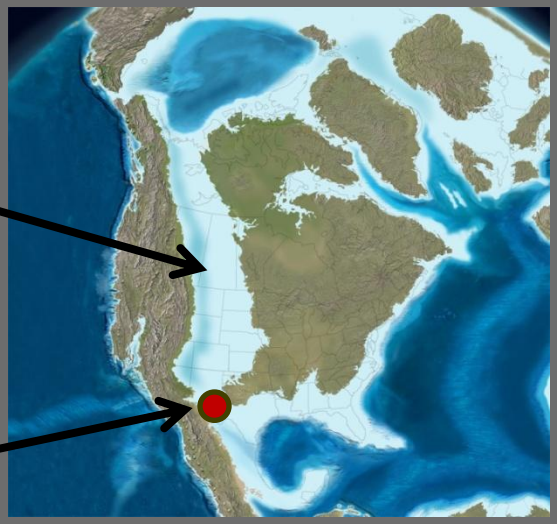
## Proposed Exhibit



# Significance of Big Bend's Fossil Resources

- 1200 different species known—Big Bend is in the top tier of NPS units for highest fossil diversity.
- Big Bend fossils include dinosaurs, mosasaurs, pterosaurs, crocodiles, turtles, lizards, fish, mammals, insects, wood, vines, leaves, and invertebrates such as bivalves, snails, sea urchins, and ammonites.
- Scientifically important fossils—species found nowhere else.
- Fossils such as dinosaurs and giant crocodiles that engage all audiences including youth.
- World's largest known flying creature—a pterosaur named *Quetzalcoatlus* with a 35 foot wingspan.
- Big Bend is the only NPS unit with strata spanning the famous K-T (K-Pg) dinosaur extinction event.
- An almost complete geological record spanning 130 million years documents a series of changing environments at Big Bend.

As the Western Interior Seaway shrank and closed up in the Late Cretaceous, the ancient environments at Big Bend's location changed. These four ancient environments will make up the 4 "chapters" of the story that is told in the new exhibit.




90 Million Years ago – Marine

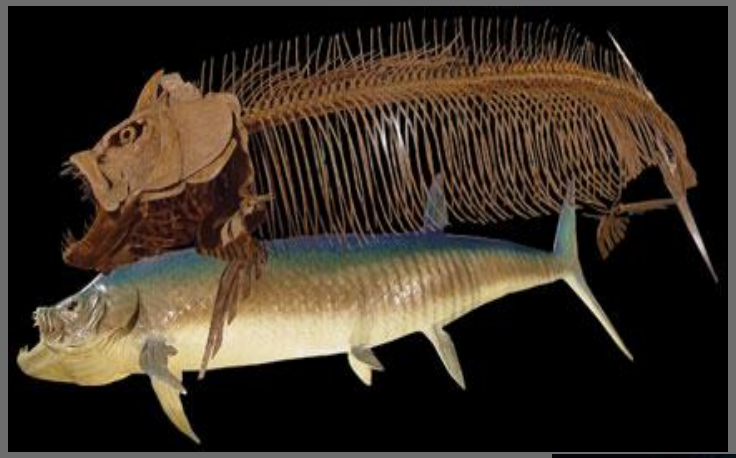
75 Million Years ago - Coastal

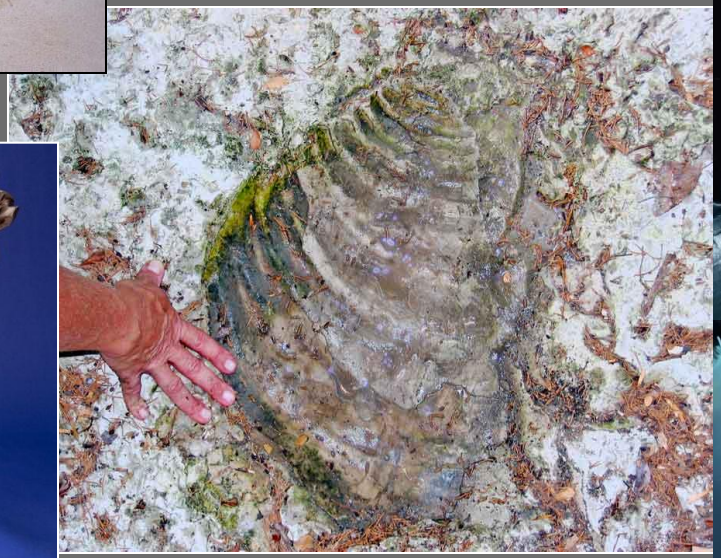
65 Million Years ago - Inland

40 Million Years ago – Volcanic Upland

# Chapter 1: **Marine Environment**

Boquillas and Pen Formations (Shallow Marine Shelf)





# Chapter 2: **Coastal Floodplain**

Aguja Formation (Deltaic Swamps, Marshes and Coastlines)

# Chapter 3: **Inland Floodplain**

Javelina and Black Peaks Formations (Seasonally Dry, Tropical Evergreen Forests and Rivers)


# Chapter 4: **Age of Mammals**

## Hannold Hill, Canoe, Chisos Formations and Bolson Deposits (Volcanic Upland)



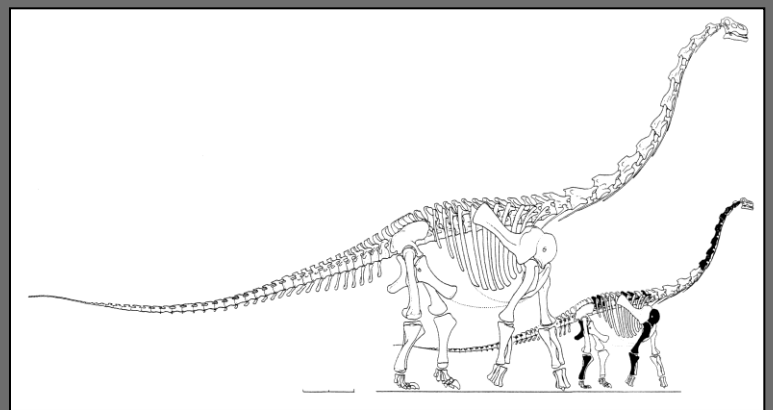
With so many fascinating fossils
and such a compelling geologic story,
the park's current Fossil Bone Exhibit is disappointing
and obsolete.

The current Fossil Bone Exhibit, located 8 miles north of Panther Junction, is over 25 years old.

# Project Scope

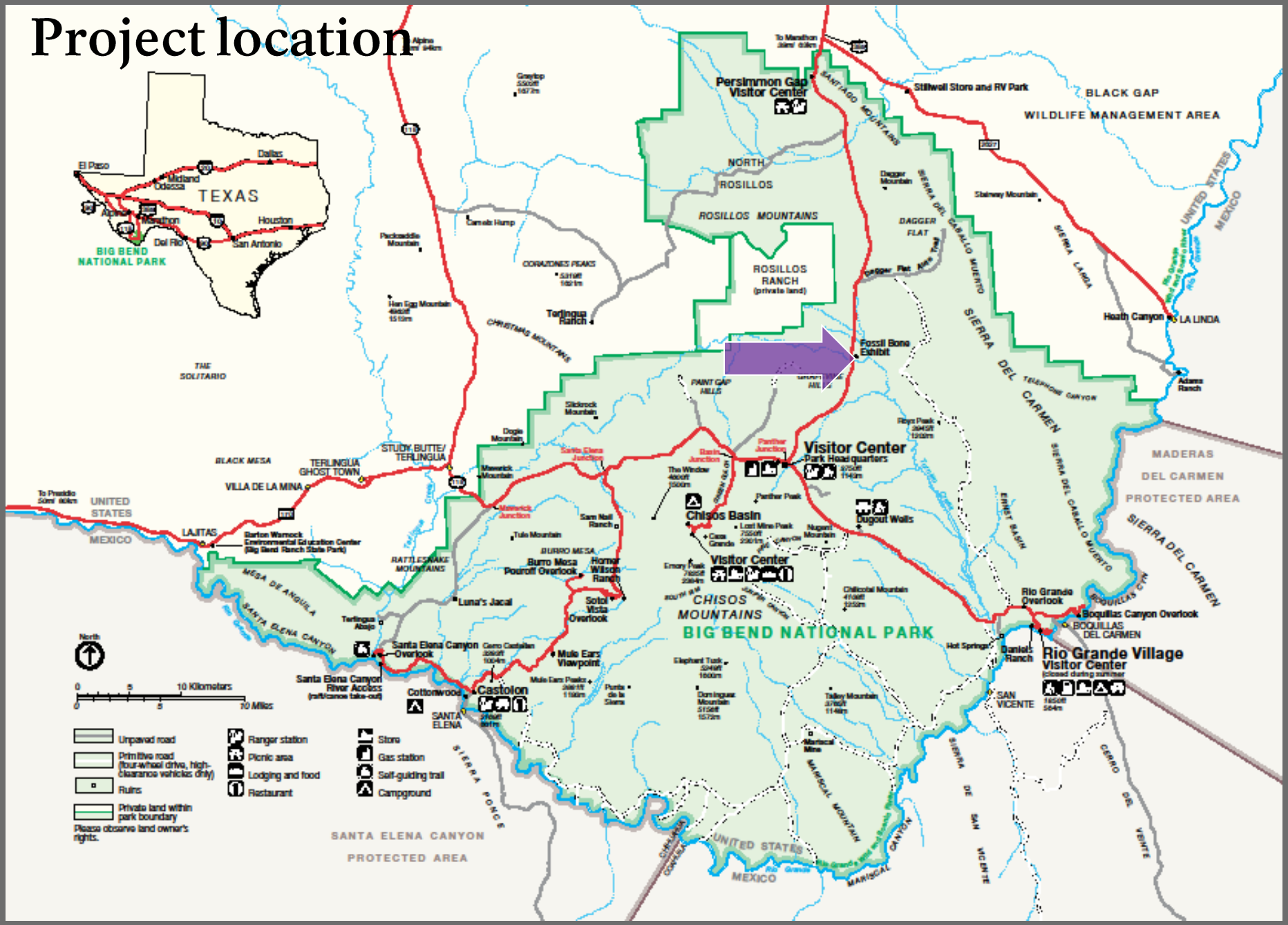
This project will design and construct an exhibit to interpret Big Bend fossils and to replace an obsolete exhibit.

- Museum-quality fossil replicas, touchable specimens, and artist's renderings of ancient ecosystems.
- Footprint of about 3000 square feet.
- Self-guided and un-staffed.
- Open air and off the utility grid.
- Uses existing infrastructure at Fossil Bone Exhibit (paved access road, parking lot, vault toilet, picnic shelter, trail).



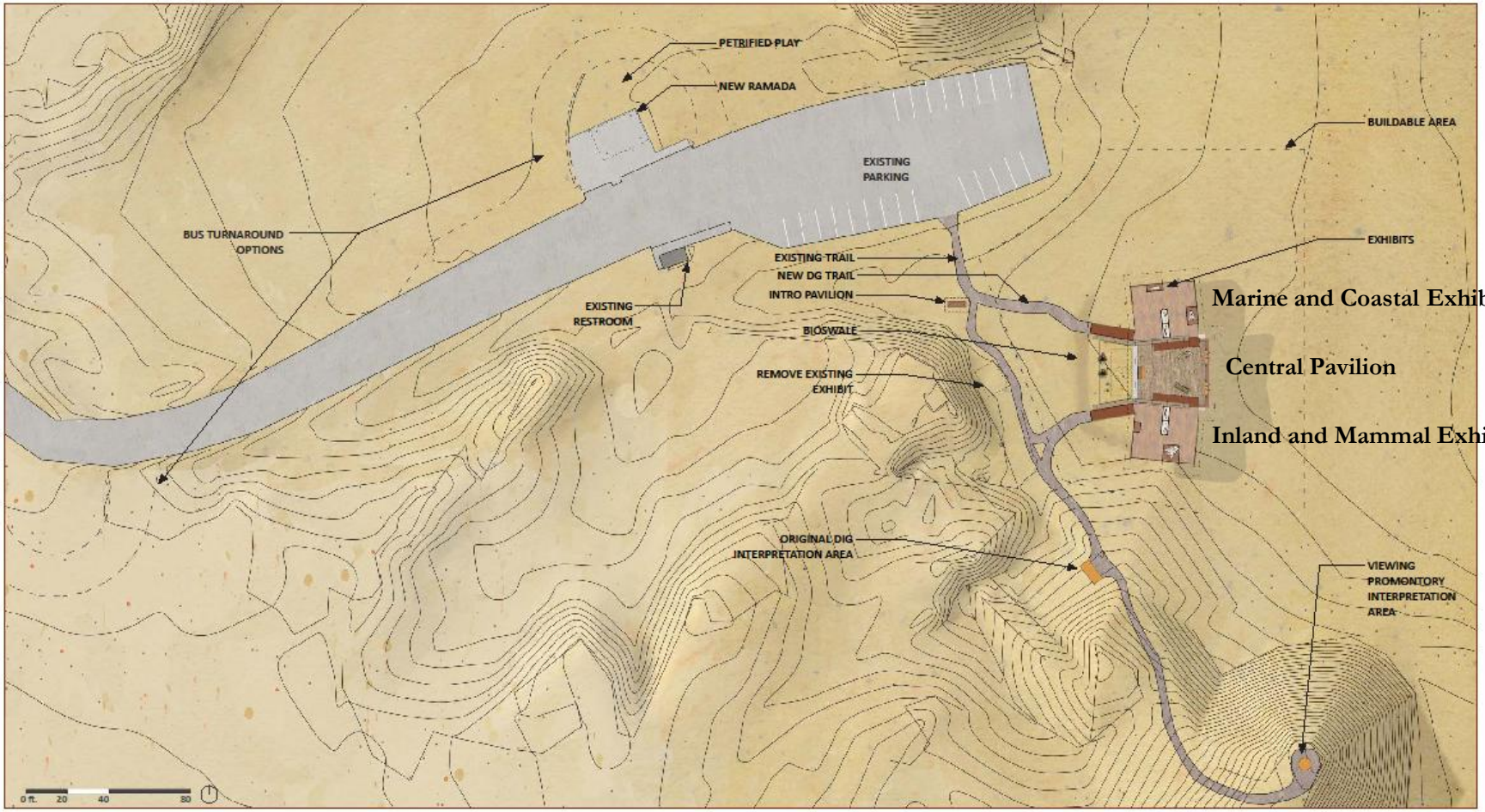
Excavation of *Alamosaurus* neck

# Project location



- The new exhibit will be located directly across the sidewalk from the old exhibit, which will be removed.
- The local terrain and rocky ridges will help hide the facility from view, as will design, color, and materials used.
- The project will make much better use of the existing development, and it is in a non-wilderness area.

# Site Plan


PETRIFIED PLAY
NEW RAMADA
BUILDABLE AREA
EXISTING PARKING
BUS TURNAROUND OPTIONS
EXHIBITS
EXISTING TRAIL
NEW DG TRAIL
INTRO PAVILION
EXISTING RESTROOM
BIOSWALE
REMOVE EXISTING EXHIBIT
Marine and Coastal Exhibits
Central Pavilion
Inland and Mammal Exhibits
ORIGINAL DIG INTERPRETATION AREA
VIEWING PROMONTORY INTERPRETATION AREA
0 ft. 20 40 80

# Elevation


FOSSIL DISCOVERY TRAIL

Entry Perspective

Big Bend National Park

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# Interior Exhibit Space

Each of the 4 main exhibits will display a large "centerpiece" fossil replica, additional fossil replicas, a large mural depicting the ancient scene, and interpretive messages, including photographs of similar modern environments, graphics showing the position of the seaway, and information about the fossils.

Note: All fossil replicas will be museum-quality replicas, which are molded from the original fossils and preserve every detail.

# Central Pavilion

A shady, airy pavilion will link the two structures that house the main exhibits. Life-sized touchable bronze skull replicas will sit beneath the park's most famous fossil, a pterosaur that is the largest known flying creature of all time. The pavilion also showcases the beautiful panoramic view to the east, interprets its geologic history, and explains the strata's relationship to the displays.

FOSSIL
DISCOVERY EXHIBIT

Quetz Pavilion

Big Bend National Park

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# Volcanic Highlands Exhibit

After viewing the Inland Floodplain dinosaurs and the Volcanic Highlands mammals, visitors leaving the exhibit can explore a short trail that leads to the original mammal fossil quarry site and a scenic viewpoint.

# Advantages and Benefits

- Provides proper interpretation of a highly significant park resource.
- Replaces obsolete exhibit.
- Fully accessible exhibit—ADA/ABBAS and programmatic accessibility.
- Touchable specimens benefit visually-impaired and learning-impaired visitors.
- Better use of existing infrastructure (paved road, parking lot, toilet, picnic shelter, trail).
- Provides a direct connection between fossil resources and the exhibit. Mammal fossils were found at the site; other fossil-bearing strata are visible in the distance.
- Provides a point of interest along Park Route 11 (Highway 385).
- Fully funded by private donations and grants (fundraising led by Friends of Big Bend National Park).

# Design Features

- Desert-tough, durable construction will be low maintenance.
- Sustainable design. No utility costs—not connected to the electric grid.
- Structure raised off of desert floor to reduce impacts.
- Rain water catchment.  Solar power.
- Terrain and rocky ridges help hide facility from view.
- Materials, color, and architecture have been designed to make facility blend into terrain and be less visible.

# Goal

- Big Bend's fossil resources are among the most significant in the NPS system, but are poorly interpreted at the park.
- Big Bend fossils are displayed at museums throughout the world, but not in the park where they were found.
- The goal of the proposed exhibit is to give visitors an opportunity to see, enjoy, and learn about Big Bend fossils during their visit to Big Bend National Park.

# For more information

- Friends of Big Bend National Park
  www.bigbendfriends.org


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